

Applicants maintain that *Jarvis* does not anticipate any of Claims 1, 4-9, 13-18 or 21-29 because it fails to disclose a *blend* of gasoline and oxygenate for reasons stated in Declaration of Charles A. Lieder, Ph.D. Under 37 CFR § 1.132, previously submitted.

The Examiner fails to provide a reason as to why the following points raised in Dr. Lieder's Declaration are insufficient to distinguish the claims over *Jarvis*:

(1) the processing conditions and the characterization of the product of *Jarvis* are indicative of a reaction product, not a blend. Note elements (i.) through (iv.) of paragraph 6 of the Declaration;

(2) the theoretical Reid Vapor Pressure (RVP) value of the "final liquid product 60", assuming "final liquid product 60" is a blend, is approximately 37; thus, if the "final liquid product 60" is characterized as having a RVP less than 7.1, then the "final liquid product 60" must be a reaction product. Note the discussion in paragraph 7 of the Declaration;

(3) the scientific impossibility that the "20% by volume of the new product to 80 octane gasoline", as a blend, has a "vapor pressure in the range of 4 to 19 pounds per square inch"; if the product has a RVP between 4 to 19 PSI, then the product must be a reaction product and not a blend. See the discussion in the third full paragraph of paragraph 7 of the Declaration;

(4) the theoretical RVP of a blended product containing one half natural gasoline and one half of ethanol is 16.66 PSI; a RVP between 1.5 and 8.0 PSI would only be possible if the product was referring to a reaction product, versus a blend. See the discussion in paragraph 8 of Declaration; and

(5) substitution of pentane for butane and/or use of a "light gasoline" or "straight run gasoline having an octane rating in the vicinity of 65 to 70" (lines 17-19 of column 6 of *Jarvis*) would require the "final product" of *Jarvis* to be a reaction product and not a blend. See the discussion in paragraph 9 of the Declaration.

*Jarvis*, when read in light of the prior art, discloses a reaction product, and not a blend, of gasoline and an oxygenate. Thus, Claims 1, 4-9, 18-19 and 21-29 are not anticipated by *Jarvis*.

**Examiner's Rejection of the Claims Over *Malfer* and *Jessup*.** The Examiner has further rejected Claims 1-22 under 35 U.S.C. 103 (a) as being unpatentable over U.S. Patent No. 6,048,373 ("*Malfer*") combined with U.S. Patent No. 5,288,393 ("*Jessup*"). This ground for rejection is likewise traversed.

The rejection of the claims over *Malfer* and *Jessup* was previously made and arguments against these references were previously presented. The Examiner did not address, in either the Office Action of June 25, 2003 or the earlier Office Action of June 4, 2002, the arguments raised by Applicant in the Amendment of August 24, 2001 regarding the impropriety of this rejection (Nor was the rejection of the claims over *Nieblyski* and *Cunningham et al*, discussed below, addressed in either of the referenced Office Actions.) These arguments are therefore incorporated by reference in this Response.

*Malfer* discloses a gasoline formulation which contains an alcohol. Specifically, *Malfer* discloses a "base fuel" for "formulating the fuel composition" which may be a reformulated gasoline "which typically contain both hydrocarbons of the gasoline boiling range and fuel-soluble oxygenated blending agents, such as alcohols, ethers and other suitable oxygen-

containing organic compounds. Oxygenates suitable for use in the present invention include methanol, ethanol . . . Oxygenates, when used, will normally be present in the base fuel in an amount below about 25% by volume . . .” Col. 5, ll. 19-35. *Malfer* does not disclose the RVP of the reformulated gasoline.

Formulated gasoline compositions containing an alcohol are not novel. As demonstrated in Applicants’ Amendment, filed August 24, 2001, when an alkanol is blended with a base gasoline formulation, there is an increase in vapor pressure which causes the blend to have significantly higher RVP. API Publication 4261, previously provided, establishes that the maximum RVP increase occurs at around 5 to about 15 percent volume/volume alcohol (which represents the level of alcohol in most commercial gasoline blends). Such blends are overly volatile.

There is no reason to believe that the RVP of the formulated blend of *Malfer* would be outside of the teachings of the prior art, i.e., API Publication 4261. The Examiner has provided no reason to refute the teaching of API Publication 4261.

*Jessup* does not cure the deficiencies of *Malfer*. The Examiner cites *Jessup* for gasoline formulations having a RVP less than 7.2 PSI and the recited indices for the 10% distillation point and 50% distillation point. The Examiner concludes that it “would be obvious to one of ordinary skill in the art to use or combine” such gasoline formulations “with the gasoline oxygenate of *Malfer et al* because combining two or more materials disclosed by the prior art for the same purpose to form a third material that is to be used for the same purpose has been held to be a

prima facie case of obviousness...." (P. 6, ll. 3-7, Paper No. 6, Office Action of April 11, 2001.)

Applicant disagrees.

First, the objectives of *Malfer* and *Jessup* are dissimilar. *Jessup* is directed to "gasoline fuels which, upon combustion, minimize the release of CO, NOx and/or hydrocarbon emissions to the atmosphere." (Col. 1, ll. 6-8). *Malfer* is directed to fuel compositions "for controlling intake valve deposits and minimizing valve sticking in spark-ignition internal combustion engines." (Col. 1, ll. 6-9). There would be no motivation for one of skill in the art to combine the teachings of the two references especially since the two references are directed to different objectives.

Second, in light of the teachings of API Publication 4261, the combination of *Malfer* and *Jessup*, assuming that they were properly combinable, which they are not, would only render, at best, a fuel composition having a RVP of less than 7.2 PSI when the blend contained a large percentage of ethers. As shown in Figures 9 and 10 of API Publication 4261, the addition of 10 % v/v ethanol to a base fuel composition typically raises the RVP by about 1 psi. Note that the ULRG Blend of Table 2 of *Jessup* contains 10.9 vol. percent of MTBE.

In summary, the combination of *Jessup* and *Malfer* does not teach that the addition of an alcohol to a base gasoline renders the RVP within the claimed limitations of Applicants. The rejection over *Malfer* and *Jessup* is therefore improper and should not be maintained.

Examiner's Rejection of the Claims over Niebylski in view of Cunningham I and II. The Examiner has further rejected Claims 1-29 under 35 U.S.C. 103 (a) as being unpatentable over

U.S. Patent No. 4,317,657 ("*Niebylski*") in view of U.S. Patent No. 5,551,957 ("*Cunningham I*") and 5,679,116 ("*Cunningham II*"). This ground for rejection is likewise traversed.

*Niebylski* discloses a gasoline composition containing a cyclopentadienyl manganese antiknock agent. The Examiner's reliance on *Niebylski* is premised on "column 2, lines 3 to column 4, lines 1-2 and Example 1, lines 45-54." (Third full paragraph of Office Action April 11, 2001, Paper No. 6.) However, there is no disclosure to any alcohol in these passages. The sole reference to an "alcohol" in *Niebylski* appears in lines 1-2 of column 4 wherein it is stated that the composition "may further contain blending agents or supplements such as methanol, isopropanol, t-butanol and the like." *Niebylski* does not discuss the RVP of the gasoline blend, much less the relationship of RVP and an alcohol.

Such deficiencies are neither cured by *Cunningham I* nor *Cunningham II*. Each of *Cunningham I* and *Cunningham II* merely disclose fuels which may contain an oxygenate. Note, for instance, lines 42-46 of column 15 of *Cunningham I* and lines 63-66 of column 26 of *Cunningham II*; the latter further discloses antiknock agents containing an alcohol (see lines 58-60 of column 10).

The fact that the secondary references disclose Applicants' dependent claimed ranges relating to 10% and 50% distillation points and RVP does not translate to the conclusion that the fuel composition of the secondary references, when combined with the teachings of *Niebylski*, would render the claimed gasoline formulation of Applicants. As stated *supra*, API Publication 4261 establishes the addition of 10 % v/v ethanol to a base fuel composition typically raises the RVP by about 1 psi. One of skill in the art would have been unable to conclude that the

combination of *Niebylski* and either *Cunningham I* or *Cunningham II* would render a gasoline fuel within the claimed limitations of Applicants.


**CONCLUSIONS**

Applicants do not believe that any additional fees are required for the submission of this Amendment. To the extent Applicants are incorrect, the Commissioner is hereby authorized to charge any additional fees to Deposit Account No. 12-1322(Our ref.013129-00025).

In view of the foregoing, Applicants respectfully request the Examiner to issue a Notice of Allowance. The Examiner is invited to telephone the undersigned should it be deemed prudent to expedite examination of this application.

Respectfully submitted,

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I hereby certify that this correspondence is being transmitted to the Assistant Commissioner for Patents and Trademarks via facsimile number 703 872-9310, in accordance with 37 C.F.R. § 1.6(d), on this 25<sup>th</sup> day of September, 2003.

  
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